

This listing of claims replaces all prior versions of claims in the Application.

Listing of Claims

Claim 1. (Currently Amended) A method of providing a metal seed layer substantially free of discontinuities disposed on a substrate comprising the steps of contacting a metal seed layer having discontinuities disposed on a substrate with an electroplating bath comprising a) a source of metal copper ions; b) an electrolyte comprising two or more acids; c) and optionally one or more additives; wherein the two acids are present in a ratio of 99:1 to 1:99 by weight; and applying a current electroplating copper on the metal seed layer, wherein the substrate comprises apertures having diameters of 0.18 µm or smaller, and wherein at least one acid is a (C₃-C₆)alkylsulfonic acid.

Claim 2. (Currently Amended) The method of claim 1 wherein the two or more acids are selected chosen from organic acids, inorganic acids, and mixtures thereof.

Claim 3. (Currently Amended) The method of claim 2 wherein the organic acids are selected chosen from alkylsulfonic acids, aryl sulfonic acids, carboxylic acids and halogenated acids.

Claim 4. (Currently Amended) The method of claim 2 wherein the inorganic acids are selected chosen from sulfuric acid, phosphoric acid, nitric acid, hydrogen halide acids, sulfamic acid and fluoroboric acid.

Claim 5. (Previously Presented) The method of claim 1 wherein the acids are present in a total amount of from about 1 to about 350 g/L.

Claim 6. (Canceled)

Claim 7. (Currently Amended) The method of claim 6-1 wherein the source of copper ions is selected chosen from copper sulfates, copper acetates, copper fluoroborate, and cupric nitrates.

Claim 8. (Currently Amended) The method bath of claim 6-1 wherein the source of copper ions is present in an amount of from about 1 to about 300 g/L.

Claim 9. (Original) The method of claim 1 wherein the electrolyte further comprises a source of halide ions.

Claim 10. (Currently Amended) A method of manufacturing ~~an electronic~~ ~~a semiconductor~~ device comprising the steps of contacting a metal seed layer having discontinuities disposed on a substrate with an electroplating bath comprising a) a source of ~~metal~~ ~~copper~~ ions; b) an electrolyte comprising two or more acids; c) and optionally one or more additives; wherein the two acids are present in a ratio of 99:1 to 1:99 by weight; and ~~applying a current~~ ~~electroplating~~ ~~copper on the seed layer, wherein the substrate comprises apertures having diameters of 0.18 μm or smaller, and wherein at least one acid is a (C₃-C₆)alkylsulfonic acid.~~

Claim 11. (Currently Amended) The method of claim 10 wherein the ~~two or more~~ acids are ~~selected~~ chosen from organic acids, inorganic acids, and mixtures thereof.

Claim 12. (Currently Amended) The method of claim 11 wherein the organic acids are ~~selected~~ chosen from alkylsulfonic acids, aryl sulfonic acids, carboxylic acids and halogenated acids.

Claim 13. (Currently Amended) The method of claim 11 wherein the inorganic acids are ~~selected~~ chosen from sulfuric acid, phosphoric acid, nitric acid, hydrogen halide acids, sulfamic acid and fluoroboric acid.

Claim 14. (Previously Amended) The method of claim 10 wherein the acids are present in a total amount of from about 1 to about 350 g/L.

Claim 15. (Canceled)

Claim 16. (Currently Amended) The method of claim ~~15-10~~ wherein the source of copper ions is ~~selected~~ chosen from copper sulfates, copper acetates, copper fluoroborate, and cupric nitrates.

Claim 17. (Currently Amended) The method of claim ~~15-10~~ wherein the source of copper ions is present in an amount of from about 1 to about 300 g/L.

Claim 18. (Original) The method of claim 10 wherein the electrolyte further comprises a source of halide ions.

Claims 19-22. (Canceled)

Claim 23. (Previously Presented) The method of claim 1 wherein the electroplating bath comprises three or more acids.

Claim 24. (Previously Presented) The method of claim 10 wherein the electroplating bath comprises three or more acids.